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# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>STANF.131QPC</b>		<b>FOR FURTHER ACTION</b> see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. <b>PCT/US 03/26311</b>	International filing date (day/month/year) <b>21/08/2003</b>	(Earliest) Priority Date (day/month/year) <b>21/08/2002</b>	
Applicant <b>THE BOARD OF TRUSTEES OF THE LELAND STANFORD ...</b>			

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 7 sheets.  
☒ It is also accompanied by a copy of each prior art document cited in this report.

#### 1. Basis of the report

a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☒ Certain claims were found unsearchable (See Box I).

3. ☒ Unity of invention is lacking (see Box II).

4. With regard to the title,

☐ the text is approved as submitted by the applicant.

☒ the text has been established by this Authority to read as follows:

**METHOD OF MEASURING NONLINEARITY SPATIAL PROFILES OF SAMPLES AND TEMPORAL PROFILES OF OPTICAL PULSES**

5. With regard to the abstract,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is Figure No.

☒ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

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☐ None of the figures.

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US 03/26311

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.: 1, 2  
because they relate to subject matter not required to be searched by this Authority, namely:  
see FURTHER INFORMATION sheet PCT/ISA/210
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.1

Claims Nos.: 1, 2

Claims 1 and 2 of the application relate to a method for measuring a physical function. That a function may relate to variables or parameters supporting a physical interpretation does not change the fact that it remains a mathematical entity. Operations such as forming other functions or obtaining their Fourier transform lack as such a technical character. Pursuant to the provisions of Article 17(2)(a)(i) and (b) PCT in combination with Rule 39.1(i) no international search report will be established with regard to said claims.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 3-27

A method of measuring a nonlinearity profile of a sample.

2. Claims: 28-38

A method of measuring a sample temporal waveform of a sample optical pulse.

# INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 03/26311

**A. CLASSIFICATION OF SUBJECT MATTER**  
 IPC 7 G01N21/63 G01J11/00

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
 IPC 7 G01N G01J

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)  
 INSPEC, EPO-Internal, WPI Data

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X,P	<p>OZCAN A ET AL: "INVERSE FOURIER TRANSFORM TECHNIQUE TO DETERMINE SECOND-ORDER OPTICAL NONLINEARITY SPATIAL PROFILES" APPLIED PHYSICS LETTERS, AMERICAN INSTITUTE OF PHYSICS, NEW YORK, US, vol. 82, no. 9, 3 March 2003 (2003-03-03), pages 1362-1364, XP001163010 ISSN: 0003-6951 the whole document</p> <p style="text-align: center;">---</p> <p style="text-align: center;">-/--</p>	3-38

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

\* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*&\* document member of the same patent family

Date of the actual completion of the international search

3 June 2004

Date of mailing of the international search report

14.06.2004

Name and mailing address of the ISA

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 NL - 2280 HV Rijswijk  
 Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
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Authorized officer

Navas Montero, E

# INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 03/26311

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X,P	US 6 456 380 B1 (NAGANUMA KAZUNORI) 24 September 2002 (2002-09-24) column 2, line 35 - line 54 column 9, line 24 - line 46 column 15, line 56 - line 60 column 17, line 1 - line 10 column 4, line 43 - line 54	28-38
X	& JP 2001 083015 A (NIPPON TELEGRAPH & TELEPHONE CORP) 30 March 2001 (2001-03-30)	28-38
X	& JP 2000 329618 A (NIPPON TELEGRAPH & TELEPHONE CORP) 30 November 2000 (2000-11-30)	28-38
A	QIU M, VILASECA R, BOTEY M, SELLARÈS J, PI F, AND ORRIOLS G: "Double fitting of Maker fringes to characterize near-surface and bulk second-order nonlinearities in poled silica" APPLIED PHYSICS LETTERS, vol. 76, no. 23, 5 June 2000 (2000-06-05), pages 3346-3348, XP002266762 USA cited in the application & QIU M ET AL.: "Erratum" APPLIED PHYSICS LETTERS, vol. 77, no. 23, 4 December 2000 (2000-12-04), page 3863 USA the whole document	3-27
A	RAMAN KASHYAP ET AL: "PHASE-MATCHED SECOND-HARMONIC GENERATION BY PERIODIC POLING OF FUSED SILICA" APPLIED PHYSICS LETTERS, AMERICAN INSTITUTE OF PHYSICS. NEW YORK, US, vol. 64, no. 11, 14 March 1994 (1994-03-14), pages 1332-1334, XP000434288 ISSN: 0003-6951 the whole document	3-27
A	US 5 530 544 A (TREBINO RICK P ET AL) 25 June 1996 (1996-06-25) the whole document	28-38
A	US 4 792 230 A (NAGANUMA KAZUNORI ET AL) 20 December 1988 (1988-12-20) the whole document	28-38

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 03/26311

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 6456380	B1	24-09-2002	JP 3378530 B2	17-02-2003
			JP 2000329618 A	30-11-2000
			JP 2001083015 A	30-03-2001
US 5530544	A	25-06-1996	US 5754292 A	19-05-1998
US 4792230	A	20-12-1988	JP 1797844 C	28-10-1993
			JP 5002928 B	13-01-1993
			JP 63238525 A	04-10-1988
			JP 1790760 C	29-09-1993
			JP 5002252 B	12-01-1993
			JP 63065324 A	23-03-1988